

**IFWO** 

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/767,441

DATE: 08/20/2004 TIME: 14:51:14

Input Set : A:\2343-179-27.ST25.txt
Output Set: N:\CRF4\08202004\J767441.raw

```
4 <110> APPLICANT: Lawrence, Mark L.
      5
              Liu, Dongyou
              Ainsworth, A. Jerald
              Austin, Frank W.
      9 <120> TITLE OF INVENTION: Use of Novel Virulence-Specific Genes as Targets for
Diagnosis
              and Potential Control of Virulent Strains of Listeria Monocytogenes
     12 <130> FILE REFERENCE: 2343-179-27
     14 <140> CURRENT APPLICATION NUMBER: US 10/767,441
     15 <141> CURRENT FILING DATE: 2004-01-30
     17 <150> PRIOR APPLICATION NUMBER: US 60/444,201
     18 <151> PRIOR FILING DATE: 2003-02-03
     20 <150> PRIOR APPLICATION NUMBER: US 60/447,297
     21 <151> PRIOR FILING DATE: 2003-02-14
     23 <150> PRIOR APPLICATION NUMBER: US 60/458,414
     24 <151> PRIOR FILING DATE: 2003-03-31
     26 <160> NUMBER OF SEQ ID NOS: 33
     28 <170> SOFTWARE: FastSEQ for Windows Version 4.0
     30 <210> SEQ ID NO: 1
     31 <211> LENGTH: 949
     32 <212> TYPE: DNA
     33 <213> ORGANISM: Listeria monocytogenes
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     38 tgaaaaagga aaacatgata ttacattagt actatttgaa gaaattttag aacgggtcat 180
     39 gttaagttca gatgaatttt tetttatgaa taggggetat tetttagegg aggaagataa 240
     40 tttttggtac aaatttgcaa atgcagctaa tcaaaaaagt ttggcagaat tacaagaatt 300
     41 ataccaagaa gtattgcagc aaaatggcga tagagcgaat ctaaggaaag caattgtcca 360
     42 ctcgagaatt gaaattaatg aacaatttct tttgaataat cgatttgacg ttagtatcgt 420
    43 ttctgaggaa gataaagcag ttatccaaac gtatttgtgg aaagttcaat catggacact 480
     44 agaagaaatt eggatttteg etaatteagt ggactatttt gaagaagatg tacaaattta 540
     45 tttttttcaa ttggtcttga agtcactcga aaaatataag cattacqatc gtggtaaaaa 600
     46 agtattttcc acgctactca ccaacataat agaagaacta atcacccgtg atcaattaga 660
     47 atatgccgcg caattattag aaatactgca cgaactttct tctacgcatg actgtgcttt 720
     48 ttaccggatt atgcataatt actatcaagg cttaatatgg atgaaaaatg acgaggtcga 780
     49 acaaggetta aaagagteta aaagtgeaat eegaatttta gatgeaettg attacaaate 840
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50 cctcgcgcta ctttataata cattacttca acagttttta gaaaaagaga atatacaaat 900

51 agtttaaagt aaatcagata cettttataa ggtatetgtt tttttggte

56 <213> ORGANISM: Listeria monocytogenes

53 <210> SEQ ID NO: 2 54 <211> LENGTH: 1470 55 <212> TYPE: DNA

58 <400> SEQUENCE: 2

# **RAW SEQUENCE LISTING**PATENT APPLICATION: **US/10/767,441**DATE: 08/20/2004 TIME: 14:51:14

Input Set : A:\2343-179-27.ST25.txt
Output Set: N:\CRF4\08202004\J767441.raw

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60 ttgttcaata aagcatttgt tagtgattgg aaaaatcatt ttcaattagt gtcatatcaa 120
61 cagcattgca gtattgtttc actaatgtca aagccaattg atatcgaact aqqaqaaqaa 180
62 ctgctgggag agttaagtaa ctttgaaaaa agtgtattta aacaagacgt attaaaatct 240
63 tttttaqaaa ctttaaaaac aactcaacca qaatatttag tgttagattt tcatqtqqat 300
64 acattcaatg gttttattga actcactgat ggggggatta tcactaatcg aatcgtccgc 360
65 tataagaaat tggatatttt taataaaatg gaagcaagga aagttttttc gccgttagaa 420
66 aatacqactq aqtttaqaaa acqttqqata caqaqtttta accqttttat qcaatttatq 480.
67 aaagaaaatt geeetaatae eeaaattate attaataggt tagaggttge aegaatgtat 540
68 tattetttag ataaccaaat ggaaageatg atagaaegta gaaaaacaaa agateaecat 600
69 actgctgaga cattagctaa aattgatgag tgcatagatt actttgagcg ttatgctatg 660
70 aataattttg atttacagtc attggacttt aattccgaag aatactttgg tgcagaaaat 720
71 aatccatggg gaacctgtta tatgcattac aatccctatt attataaaaa aaagtttaaa 780
72 gatttatgga atatagttga aaatcatttt catgcaccaa caaaattagc tagttttgca 840
73 cctggaggcc ttgcgaaaca aattccatta ggtgtgacca aattatctga tatggatgaa 900
74 gtaggagtat attatttaac aaatgctact tacttacaaa tggaggatcg accgacaaca 960
75 gataatgcag gttatttttt cattgtttat ccgcgaaatg ggaaaaatgg gtatatgcaa 1020
76 gagetgagaa aateaacage agetttttee atteaaattt ttgteegaat taetgatgga 1080
77 aaagagagtt ctaaatggaa catggtaaat agtggctttc gaacacttac aatacctgat 1140
78 qtqacttcta tttctqaaat tacaqaqqct qqaqaatatt atattactqc aqaacaqqtt 1200
79 aagaaacttc aggatcatcc tacaaagaaa aatggttggt ttctaaccgt ttctaagaaa 1260
80 aatcatgata gcctaaaaca attgttaaca aaaaatactc aaaatgacaa tgcctttgaa 1320
81 qaatatgttc gacttgtaaa cgtggaaaaa agaacaaact taaaatggcg taaatatcat 1380
82 tttgatgaag caaacttttc gattatagtt gctatacgta actttaaaaa caaagtggta 1440
83 cqaaqattaa aattaacaaa aqcataaaca
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86 <211> LENGTH: 730
87 <212> TYPE: DNA
88 <213> ORGANISM: Listeria monocytogenes
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92 aaaaagtggt gatttagtca aaaaagaaat agttgcaact aaaaaaacta aaaatctctt 120
93 ggaagateta aettegeatt tgttatgtgt tacaaateaa atagagtatg gaaaatttat 180
94 cacttggtat gaaatggaaa ttaaaaaagt tetacaagtt cateecaate ageaetttat 240
95 tattaaaatt teettteaac aattatattt tegggaaaca atgetgttge ttgagaattt 300
96 acagaaagat ageeggegae taaegattga getagttgga gatagteaga ttageeetta 360
97 ttcaaaggaa catttttccg cagaggacag tgatgctttt ttgaaaggga agttaaaaat 420
98 gttgaaaaag tggcattatt ttatttcaaa gcatattgaa agtggtgcca tcgaacaaac 480
99 actgattttt acgccctata ttgatgaatt gaaatatagt ttaacgcaaa agtcgaagct 540
100 ottacacaat attactgaat taaagttttt totatoattt tggaaaaatt gggotgagot 600
101 tegatttgtt gattttttag ttttagtaga tgaaaaaaac gaatttgtat egeatgtget 660
102 tttaccagat gaattaaatg tacgttgcaa aatgtatgag aactttggag gaatggtcag 720
103 tgagtaaaaa
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105 <210> SEQ ID NO: 4.
106 <211> LENGTH: 810
107 <212> TYPE: DNA
108 <213> ORGANISM: Listeria monocytogenes
110 <400> SEQUENCE: 4
111 aaaaactgtt ctaaaaagga gggggaacga tgaaaacgaa gatgccggaa atgctttctt 60
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Input Set : A:\2343-179-27.ST25.txt
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112 tcatttcaga agaagctgtt agtaqaaaaa tgacaaqtga qqaaattqct qctcactttq 120
113 gttatgataa acatcacttt agtcgaaaat ttaaagaaat taatggattc aqtgtggttg 180
114 aatttettte tagtttaaaa gtggaaaagg egattattga aettgatgaa gaagtaegea 240
115 tactegaett acaagaacat teaggittig aaaqtagigg tagitteaca aatacqitta 300
116 aaaaatatac aggtagttet eetagaaaat acaaaacega aatgaatgat attttttatg 360
117 atatgaaacg ttttgaaaat gataataagg ataagtcaat agcgcatttt caagaaaata 420
118 atgattettt ttgcaatgta actattgatg tacetgatga atttgagaag ggtateatat 480
119 ttattggact tttccqtact cttataccqa atcatatqcc tatatcqqqa ttaqctacta 540
120 aaaatttaat aggaaatcaa ttgaaaaata ttccaagcgg agactattat ttattagctt 600
121 gtgcgataag ccagtctaat aacattctat cttattttaa cttaagtaat agtttgagag 660
122 ggaaagaaga tgaaaagcta tetttteeta aatgttetgg caateattae gegattaage 720
123 tgagaaaacc aataccagaa gatccaccaa tattagctaa tgtgggaaaa attttaatct 780
124 cctgtttgaa gaacacaatc tagaacaatt
126 <210> SEQ ID NO: 5
127 <211> LENGTH: 960
128 <212> TYPE: DNA
129 <213> ORGANISM: Listeria monocytogenes
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133 tttttcattq tatatttqcq acattttqca qaaaaatttq cttcatttct tctqqqqtat 120
134 gattactata tegtttaaat tgtttaatta agtgageetg gteegtaaae eeatgaagat 180
135 aagcaagtte agegeeegge acaettggat teteatataa tgeetgtaat aetttttgga 240
136 aacgaataag ttttgctgtc tgtttaggtg caagtcccat gtgtttttga aacagccgtt 300
137 ctaactgccg aacagataca gctcctaaca caaattgatt ggggttttgt agtaacttat 360
138 caatactgtt taaaaaatca ggatggactt gcttgccaag catcattaat tttcqcaqta 420
139 aaaattette taataaaget attettteae tgttegtegt eattteagea aacetetett 480
140 gaaaaaacga aacaaatcca gcaaacatct cttccggctc ttttacccga ttcatqctac 540
141 cagtcaagtc ctgttcgaca aataaaaata acgaccacgc ataaaatcgc acggcaaaaa 600
142 gctcggtatt actttcatcg tcagactcaa acgatgcatc actaacgcca acaaatatag 660
143 catccgtcac tagccctgtt ttactatcaa ttgtaaaaat aatatccgca cataaatcag 720
144 gaaccactaa attatttccc gggaaattet tatcatetge eteccaaaaa cagegaatat 780
145 agcctgtaag agctgcactc ggtagatatt ctttatagcc agcacgcttt ggtgtagcta 840
146 caatgggata aaacgtttct aqcttaqcca taaaqaqacc cccttttcct cataqtacca 900
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152 <212> TYPE: DNA
153 <213> ORGANISM: Listeria monocytogenes
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157 gggctttcga ttgatacgct tcgatattat gaggaagaaa aattattaat acctgctaga 120
158 aatgaaaaa attatcgtgt ttatacggaa gaagattact gctgggtaca gcttttactt 180
159 aaaatgaagc aaacagagat gacaataaca aacattaaaa attttgctac attacaaaag 240
160 caaggagata aaacactccc aaatcggata caaattttag ataatcatat ggaaaacttg 300
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162 tatcgagaga agttataaaa acaacaggaa
164 <210> SEQ ID NO: 7
165 <211> LENGTH: 4470
166 <212> TYPE: DNA
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167 <213> ORGANISM: Listeria monocytogenes 169 <400> SEOUENCE: 7 170 aagtettgaa aaagaaattt agtatagtta ttateagtgt attgttaett ggttatttag 60 171 cgccttttga tactttgtta gtaggtgcag atgaaacaac ggtttctgaa gatacagcag 120 172 ttaaaacggc agaagcagat agtgctactg aaggcataga aagcgaaaca ggttcagatg 180 174 aaaaagagga aaaagcgaaa acggaagaac cggcttctaa tattaaaacg gagattaata 300 175 cagataaaag ccagctgaaa caaactagct taaaagcagc qqtqccagca qqaagtacat 360 176 ataattettt gttteeagae gacaatettg etaaaaaatt agetgtgatt ateacaggaa 420 177 atgcggctgc aacaggtaat gaatcagtgg atagtgcagc tcttttagca ataagccaac 480 178 ttgatttgag tggggaaacg ggcaatgacc caacggatat ttccaatatt gaaggattac 540 179 aatatttaga gaatttaaca agcctgaatt taagtgagaa taatatatcc gacttggctc 600 180 cacttaaaga tttggtaaac ctggtttcac ttaacctttc ttccaatcga acattagtaa 660 181 atctttcagg ggtggaggat ttagttaatt tgcaagaact taatgtctct gcaaataagg 720 182 cgttagaaga tatttcacaa gttgcatcgt tgccagtgtt aaaagaaatt agcgcgcaag 780 183 gctgtaatat taaaaccttg gaattaaaga atccggctgg tgctgttttg ccaqaactag 840 184 aaacatttta tttgcaagaa aatgatttaa ccaacttaac ttcattagcg aaacttccaa 900 185 aattaaaaaa tetetatatt aaagggaatg ettetttaaa aagtttagag acattgaaeg 960 186 gggcgacgaa gctccaattg attgatgcga gtaactgtac cgatttagaa acgcttggag 1020 187 atattaqcqq qctttcqqaa ctcqaaatqa ttcaattaaq tqqttqtaqt aaactqaaaq 1080 188 aaatcacaag cttgaagaac ttgcctaatc tggtgaatat tacggcggat agctgtgcaa 1140 189 ttgaagattt aggaacactg aataatttac caaaattaca gacattagtt ctttcagaca 1200 190 atgaaaattt aaccaatatt actgcaatta ccgatttacc acaattaaaa acattaactt 1260 191 tggatggctg tggaattaca tctattggaa cgcttgataa ccttcctaaa ttagaaaaat 1320 192 tagatettaa ggaaaateaa ataaetagta taagtgaaat aaccgaetta eegegattaa 1380 193 gctatttaga tgtaagtgta aataatetta caaccatagg ggaettgaaa aaattaeete 1440 194 tattagaatg getgaatgtt agttegaata gattateaga tgtgagtaea etaacaaatt 1500 195 tcccgagttt aaattatatt aatatatcaa ataatgtcat tagaacagtc ggtaaaatga 1560 196 ctgaattacc ttcgcttaag gaattttacg ctcaaaataa cagtatatca gatatttcga 1620 197 tgattcacga tatgccgaat ttaagaaaag tggatgcgag taacaaccta attacaaata 1680 198 taggtacctt tgataattta ccaaaattgc aaagtctaga tgtgcattca aatagaatta 1740 199 caagtacatc agttatacat gatttaccaa gettggagac gtttaatgcg caaactaatt 1800 200 tgattaccaa tattggtacg atggataatt taccaqattt aacctacgta aacttatctt 1860 201 tcaacagaat accgtcgctt gctccaattg gtgacctacc caatttaqaa acattaataq 1920 202 tatcagataa taattettat ttaagaagee taggaaegat ggaeggtgtt eetaaaetga 1980 203 gaattttaga tttacaaaac aattacctta attacactgg aacagaagga aacctaagtt 2040 204 cattaagtga tttaacaaat ctaacggaat taaatttgcg aaataatgtt tatattgatg 2100 205 atataagtgg actttccacg ctatcaagac tgatctactt gaatttagat tccaataaaa 2160 206 ttgaagatat ttctgcattg tctaatttaa cgaatcttca agagttaaca cttgaaaaca 2220 207 acaagattga aaacatttca gcacttagtg atttggaaaa tttaaacaag ctagttgtat 2280 208 caaaaaataa aattattgat attagteetg tegetaatat ggttaatega ggggeaattq 2340 209 taactgcgag taatcaaaca tatacattgc caactgtatt atcatatcaa aqctcqttta 2400 210 ccatagataa teeggttatt tggtatgaeg geacaetaet agegeeatea teeataggaa 2460 211 actotggtaa ttacaaggac gggaaaataa cttggactaa tatgaccgct acgtctagtt 2520 212 ccactttatt taactttaat aggttaaaag acggtttaac cttctcagga acagtcaccc 2580 213 aacettataa atetgeagee aaagtaactg cagatgeaga geaaacttat acaattggtg 2640 214 atactattic agaggagcag titttaaaag atgttaatgc aaaatcatca gacqqqqcac 2700 215 ctgttacaag tgattttgct acagtggtgg atttaaacac ttttggcgaa tatgaagtta 2760 216 ctttaacttc cgaaaaagat ggaatccaaq qqqataqttq caaaqtaatt qtcaaaqttc 2820

# RAW SEQUENCE LISTING DATE: 08/20/2004 PATENT APPLICATION: US/10/767,441 TIME: 14:51:14

Input Set : A:\2343-179-27.ST25.txt
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218 ttacagagaa acaattttta gaagatattc atgccagcac agacttggat acagctatta 2940
219 caaccaattt tagtacagca gttaacttga ataaaggcgg agattataca gttqcactaa 3000
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223 cttctaattt tgctacagca gttaatttag ataaagctgg tgattatact gttacactga 3240
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225 aagagaaaat agcaacaatt agcacaaata cggcacaaca atatgaaaaa tatgcgaaga 3360
226 ttaatgaaac gcaatttcta aaagatgttc atgctagtat taacgegagc ccaacaaccg 3420
227 cagttttgga aagtgatttt gaaacagtag ttaaactaga cgtcccagga acgtacacag 3480
228 taacgattac tgctacaaat gaagatggcg gagtatcggc acctaaagaa gtttctgtca 3540
229 tagtaaggaa aattccagca ccagagatca ctgcagataa ggaaataact tatccgaaat 3600
230 ttgatgaagt aagtgaagca gaatttttaa atgatattca tgcaactatt agtgacaaaa 3660
231 atgtagegat tacaagtaac tteageacag atgtgaattt aaataaaget ggegattaca 3720
232 cagtaacatt aaatgctacg aatgaagacg gcgtaaaggc tacaccggtt gaaqtaattg 3780
233 tacatgttca acaaggagaa cgccctgtta taacagccga tgcaactatt tcctatgaca 3840
234 agttegetaa eataaeggaa gegaagttet tagaagatat teatgeaaca agtagtgatg 3900
235 gtcaaagcte tactgtaate acetetaatt teeagacege gacaaaette aaaacageca 3960
236 tgagetacac agttacgett aatgetgtaa atgaagaegg cattagegea gaaceagtag 4020
237 cagtgaccgt tacaataaat aaagaaccag ccgcggcgtt aaaagctgat gcagaagtaa 4080
238 gctatgcgaa aaatgaagct gtaaccgaat ccgatttctt caaagatgtt catttagaag 4140
239 gaacggaagc gccaagtaca gccaaagcaa caagtaattt tqattccqta qtaqataqaa 4200
240 gtaaaacagg agattatact gttacgataa atgctacaaa cgaaqatggg gctgtttcta 4260
241 caccaattga agtaattgtt catattgaag cagaaagtgc accagtaatt acagcgaatg 4320
242 cagaagtaaa atataacaaa catgaacaaa cagacgaaag aagatitta tatgatagtg 4380
243 aagcaaaaat cgatgaagct aatgtggaaa ttaaaaccga ttttgcagaa aaaqtaqata 4440
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247 <211> LENGTH: 1190
248 <212> TYPE: DNA
249 <213> ORGANISM: Listeria monocytogenes
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253 cattetgtea etaagettta etggtttaga tetgaaggea aaagetgett etgatttata 120-
254 tocactacct gotocaatta ttgatgtttt cocagatgat ggattagcca aagatatggc 180
255 taaaaactta aacaaagact ctgtgaatga tgttattgac caaqatqact tqqatqcatt 240
256 aactggtttg ggatttgaaa caagtacgat tacgaatgat tccatgcaat tactaqaacq 300
257 tgccatgttt aacaatgtca cagatgtaag tattatggaa tttggggcta aactaacgga 360
258 gttccctgat attacaacca tcccacattt aaaaacgtta ttttttgctg atccacctgg 420
259 aagattaact agaaacttgt cccttccaaa ctaccaaaat tatcctgaaa tqqataccat 480
260 tacaatgage ggaaataatt taateggtte tateeetgat tteaetggaa tqeetqettt 540
261 aaaacagctg tatatgtctg aaatgttaat tacaagcgat gaacttccta attttaataa 600
262 tatteettta ettattaegt tggatetaag ttetaaceaa ttgacaacta tteetgattt 660
263 toaaaatata ccaaatotoa catttttaga tttaaatgoa aatttattaa ccaatacaco 720
264 tgattttcaa aatttaccta aattaactga tttaaattta agacataaca atttaactgg 780
265 tacgatggtt aactacacca acttacctag tttagaatcc ttaaacttag attacaattt 840
266 tttaactgaa ctaccgtcta atgtattaga taccatctat gttcaaagtc aaaacqqaqa 900
267 gcttcctgat caaactatta atcagggcga tacctgtact attgatttac ctatttattt 960
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RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/10/767,441

DATE: 08/20/2004 TIME: 14:51:15

Input Set : A:\2343-179-27.ST25.txt
Output Set: N:\CRF4\08202004\J767441.raw

#### Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:33; N Pos. 610

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/767,441

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L:670~M:341~W:~(46)~"n" or "Xaa" used, for SEQ ID#:33 after pos.:600